

AMIGA

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WORKBENCH

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Picture: Swamp.Lace from PIXMate

Next AUG Meeting
Sunday, December 17th at 2pm

(Doors open at 1pm, meeting starts at 2pm sharp)

**AUG meetings are held at Victoria College Burwood Campus
Burwood Highway, Burwood - Melways map 61 reference B5.**

Amiga Users Group Inc, PO Box 48, Boronia 3155 Victoria, Australia

Australia's Largest Independent Association of Amiga Owners
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AMIGA Users Group

Who Are WE?

The Amiga Users Group is a not-for-profit association of people interested in the Amiga computer and related topics. With over 1000 members, we are the largest independent association of Amiga users in Australia.

Club Meetings

Club meetings are held at 2pm on the third Sunday of each month at Victoria College, Burwood Highway, Burwood. Details on how to get there are on the back cover of this newsletter. The dates of upcoming meetings are:

Sunday, December 17th at 2pm

Sunday, January 21st at 2pm

Sunday, February 18th at 2pm

Production Credits

This month's newsletter was edited by Con Kolivas. Equipment and software used was: Amiga 500 with SIN500-2 memory board, Professional Page, and HP Laserjet.

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Contributions

Articles, papers, letters, drawings, cartoons and comments are actively sought for publication in Amiga Workbench. All contributions submitted for the purpose of publication that are printed in the newsletter are rewarded on the basis of one free public domain disk copy per column or half page printed with a minimum of one free copy. Contributions may be sent in on disk, paper or uploaded to Amiga Link or Amiga Link II in the area set aside for this purpose. Please send your contributions in text-only, non-formatted if they are on file and remember to include your address for return of disks and tokens for PD disks. Absolute deadline for articles is 23 days before the meeting date. Contributions can be sent to: The Editor, AUG, PO box 48, Boronia, 3155.

Membership and Subscriptions

Membership of the Amiga Users Group is available for an annual fee of \$25. To become a member of AUG, fill in the membership form in this issue (or a photocopy of it), and send it with a cheque or money order for \$25 to: Amiga Users Group, PO Box 48, Boronia, 3155

Public Domain Software

Disk from our public domain library are available on quality 3.5" disks for \$8 each including postage on AUG supplied disks, or \$2 each on your own disks. The group currently holds over 200 volumes, mostly sourced from the USA, with more on the way each month. Details of latest releases are printed in this newsletter, and a catalog disk is also available.

Member's Discounts

The Amiga Users Group negotiates discounts for its members on hardware, software and books.

Currently, Technical Books in Swanston Street in the city offers AUG members a 10% discount on computer related books, as does McGills in Elizabeth Street. Just show your membership card. Although we have no formal arrangements with other companies yet, most seem willing to offer a discount to AUG members. It always pays to ask!

Back Issues of Workbench

All back issues of Amiga Workbench are now available, for \$2 each including postage. Note that there may be delays while issues are reprinted. Back issues are also available at meetings.

Amiga Link I & II - Our Bulletin Board Systems

The Amiga Users Group operates two bulletin board systems devoted to the Amiga, using the Opus message and conferencing software. AmigaLink I and II are available 24 hours a day. AmigaLink I & II can be accessed at V21 (300bps), V22 (1200bps), V23 (1200/75bps) or V22bis (2400bps) using 8 data bits, 1 stop bit and no parity.

AmigaLink is part of a world-wide network of bulletin boards, and we participate in national and international Amiga conferences. AmigaLink has selected Public Domain software available for downloading, and encourages the uploading of useful public domain programs from its users. AmigaLink I (792-3918) is OzNet node number 8:830/324 and AmigaLink II (376-6385) is OzNet node number 1305/998

Newsletter Advertising

The Amiga Users Group accepts commercial advertising in Amiga Workbench subject to the availability of space at these rates:

Quarter page \$20
Half page \$40
Full page \$70
Double page spread: \$120

These rates are for full-size camera-ready copy or Professional Page format only. We have no photographic or typesetting facilities. Absolute deadline for copy is 23 days before the meeting date. Send the copy and your cheque to: The Editor, AUG, PO Box 48, Boronia, 3155, Victoria.

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Digiview Upgrading (or, 'How Dumb am I?')

I got a Digiview in early 1988... it was version 2.0, the NTSC version that required a male-male adapter (because it was originally designed to go into the back of a 1000). It worked excellently, and when I saw the Digiview 3.0 upgrade Kit for \$30, I jumped at the chance to get a more flexible, and more importantly, a PAL version. That's where the fun begins.

It worked okay in low resolution (320x256), if you did a slow scan, but in higher resolutions, there were nasty streaks of reversed pixels up and down the screen. My first thought was 'hardware incompatibility'. I called NewTek in Salt Lake City, and they'd never heard of anything like it before. Next, I visited Maxwells, where they very generously let me try out the 3.0 hardware on my machine. It worked (keep this in mind... as it turns out, it shouldn't have), so I lashed out and purchased the hardware as well (and you can ask Maxwells about the price, because i'm too embarrassed).

Strange! When I got it home, the version 3.0 hardware did the same thing. So what did that leave? I unplugged the hard drive... do difference. The external floppy drive... nope. Aluminium foil around the video cable (we're getting desperate here)... nycho nitchevo. T'was then I noticed, on the Workbench title bar, the '2730200 free memory' display. So, I ran NoFastMem. Bingo. No Spewglies.

I gave Power Peripherals (the Australian Distributor of Spirit Memory Expansion devices) a call, and yes, they had heard of the problem. It appears that some of the DRAMs used in the SIN boards were sensitive to this sort of thing (DAMN sensitive, by the looks of things... the only thing that can sense it is Digiview's version 3.0 software), and they would replace them gratis.

So, no need to diminish the family fortune getting the version 3.0 hardware. (That guy I sold my Digiview 2.0 got a better deal than he knows).

- saint nikolai

Game Review: 'Empire: Wargame Of The Century'

When you see games with titles like '(something) of the Century', or with notes on the box like 'Warning: this game can be addictive, and we're not responsible for lost work time' etc., you tend to dismiss them as advertising bull. I think in this case, the words are all too true.

The first time I ran this game, I kept it going for 48 hours, not because it's slow, but because it's fascinating! (I suppose i'd better describe it for those of you who haven't come across it in any of its previous IBM or VAX incarnations).

Please Note: this is NOT the public domain DRACO game 'EMPIRE' reviewed in Workbench previously, although it bears a few superficial resemblances. Yes, it's a strategy game, played on a 100x60 grid of randomly-scattered land masses and oceans (the option exists to create your own maps as well). Somewhere on this map are a number of independent cities

You are plonked down on one of them, and given the mission of subduing the rest, by building armies which must march out and overtake them. The armies can't cross the sea, so at some stage you'll have to find a city near the water, take it over, and build a troop carrier there, load it with up to six armies (the maximum) and send it off across the briny.

This would all be a piece of cake, if it weren't for the fact that there is a computer-controlled enemy doing exactly the same thing somewhere on the map (in fact, the current version allows for two other enemies). The fun begins when one of your marauding armies suddenly finds an enemy city (and is promptly massacred by enemy fighters). I've mentioned armies, troop carriers and fighters, so i'd better give a run-down of what's available:

| Name | Moves per round: | Capabilities: |
|----------------|------------------|------------------------------------------------------------------|
| Armies | 1 | The only force that can conquer cities |
| Fighters | 5 | Can fly anywhere, to a range of 20 moves |
| Troop Carriers | 2 | Can carry 6 armies |
| Destroyers | 3 | Handy for ocean exploration |
| Cruisers | 2 | Can take up to 8 hits before sinking |
| Submarines | 2 | Can dish out three hits instead of one |
| Carriers | 2 | Can carry up to eight fighters |
| BattleShips | 2 | Take ages to create (and are practically useless, in my opinion) |
| | | (the last six are all ocean-going craft) |

There's a lot more to it than this... for example, the submarines can only be seen by armies and cities on the coasts, if a troop carrier is damaged, it can only carry part of its normal capacity, the fighters can land at cities and on carriers, re-fuel and take off again, any damaged ships can dock at a friendly city and repair (and they will be lost if an enemy army takes over the city while they're there), and so on.

To someone who's been playing the old IBM version for a year, the Amiga implementation is nothing short of brilliant. Fast, eight-colour graphics, the ability to scroll the map about (to see the area you have already explored), the administration of the battle forces is much easier (for example, you can order troops to move to a particular spot on the map, and they are quite intelligent in the way they avoid obstacles), you can use the mouse or a myriad of keyboard commands to perform actions, review the world map as it is at the moment, review your ships (which you can name individually, or have the program name them), save/restore games, maps, and above all, it's FAST (the old IBM version would take up to twenty minutes to make a move during the latter stages of the game, and sometimes up to half an hour to create a random map!). What more could you want? How about a demo mode that pits three computer controlled enemies against each other? It's all there.

The only down sides to this game were the pathetically IBM intro screens and sound effects. The intro screens are on the disk as 'something'.PIC files, so if you'd really care to, you could substitute your own (although I haven't tried that yet).

So, WHERE do you GET IT? I got my copy from the Computer Spot, a mail order place, Front 13 Gibbes St. East Chatswood, NSW 2067. Alternatively, you could check out that new Gaming Store in Swanston Street, near where the Minto Book shop was (just down from Lonsdale Street).

This is the only Amiga product i've obtained which has kept me awake for two days. Send armies and fighters out until you find a copy. Then buy it.

- saint nikolai

About FED (the font editor).

If you've bothered to poke around your Extras disk, you may have found a tool called FED. This is a Font editor, which allows you to create your own fonts, or modify the existing ones. If you create a font that's the same size as the 8-point Topaz.font, you can use FF (the recently-Workbench-1.3 Fast-Fonts utility) to set this as the default font for windows, requesters, etc. Russian and greek fonts are possible (although you may have some trouble getting the Japanese character set into an 8x8 grid). Even so, there is a Public Domain utility called SetFont, which allows you to use larger, or even proportionally-spaced fonts in windows and titlebars (with varying degrees of success).

A word here to those of you new to the idea of fonts: two of the variations available are Fixed-Width and Proportional-Width fonts. In the first case, each and every letter is a fixed width; in the latter, a capital 'M' might be ten pixels wide, and a lowercase 'i' might be just three.

FED lets you create either sort, and modify the spacing for proportional letters (for example, the previously-mentioned lowercase 'i' might only be three pixels wide, but you could make it take up ten pixels of space, so that the 'M' and the 'i' would be effectively, the same width). It's here that you begin to appreciate the difference between ASCII character 105 ('i') and the pattern of dots which are plotted down on an Amiga Bitmap:

..... (in the Topaz 8-point version, the 'i' is this big. Using FED, I made up a proportional version called TEKST.font, where the 'i' is only four pixels wide. I also took the opportunity to modify a few other letters that I didn't care for.)

And once you've saved these, you can use them in Deluxe-Paint, NotePad, Photon Paint, DigiPaint, or any other package that supports Amiga Fonts. Which brings me to the use I found for them at work.

Part of my job involves configuring Bar Code Readers. You can plug a terminal into them and type it all in, or you can use the reader to scan barcodes out of a manual. We needed to make up a configuration sheet of codes that weren't in the manual (we tried using a MacIntosh, but SuperPaint just isn't friendly enough... the idea of drawing up to five thousand tiny vertical lines, and having them come out the right distance apart, is one thing horror-master H.P. Lovecraft never thought of). So, I made up a font called BarCode, typed the required codes onto a DeluxePaint picture (things like '*\$+IA5\$*' equals 'set to 4800 baud'), saved it as an IFF file, and (since I don't own a printer), made them into PostScript files with the public domain utility IFF2PS (which, by the way, Mr.Kolivas,

doesn't like PAL pictures - I found out the hard way), used ANOTHER public domain utility called PCUTIL to stick them on an IBM-formatted 3 1/2 inch disk, brought them to work and stuffed them down an asynch line to an Apple LaserWriter that just happened to be on my desk. The result? Bewdiful.

- saint nikolai

PHOENIX The Replacement MotherBoard for the Amiga 1000

Commodore have been working on the Enhanced Chip Set (ECS) for months now. You must have heard about it. One megabyte of chip RAM, Blitter operations of up to 32x32K (a 1024 times improvement), a PRODUCTIVITY mode of 512 lines (400 NTSC) non-interlaced, a SUPER-HIRES mode of up to 1280 pixels across the screen on a standard monitor. The software (Kickstart 1.4) and hardware to make all this possible is soon to be released. Fanstatic, right?

Wrong.

Commodore have now made it official that the Amiga 1000 has been dropped. The ECS will not work in the 1000. A500/B2000 only. YOU know the 1000 is a great machine, I know the 1000 is a great machine, but Commodore?

So now you are considering your options. One megabyte of chip RAM means you can now run your drawing program in the 640x512 16 colour mode, and still have the undo and alternate page available to you. 32x32K blits means faster operations in graphics programs, games, and any options that make use of the Blitter. And the only way all this is possible is if you sell your old, faithful 1000, and buy a 500 or 2000.

Not so.

Andrew Wilson, the original developer of the popular Proton memory boards, now making the even more popular 8-meg memory board, has a design plan for a REPLACEMENT Amiga 1000 Motherboard.

The PHOENIX BOARD will include:

- Full support for the Enhanced Chip Set.
- The ability to use your existing expansion connector peripherals.
- Up to 2 Megabytes of switchable RAM on the main board.
- Up to 10 Megabytes of INTERNAL, switchable autoconfiguring RAM using an 8 Meg daughterboard
- INTERNAL Real Time Clock and Calendar (500/2000 compatible)
- Provision for up to three INTERNAL KickStart ROMs, allowing switching between KickStart 1.2, 1.3 and 1.4, including provision for INTERNAL KickStart EPROMs allowing customised KickStarts.
- INTERNAL Disk Drive Connector allowing internal fitting of DF1:, DF2:,

and DF3: (if fitted in a larger case)

- Drive swap switch to allow booting off other disk drives.
- A500/2000 style switchable Audio Filter.
- INTERNAL space for a 68881 maths coprocessor.
- FULL B2000 style VIDEO SLOT.
- One Amiga 2000 slot, allowing a 2000 board to be plugged in, or a 2000 type multi-slot backplane to be used (only in a bigger case)
- Provision for a SCSI port for Hard Disk, CD ROM, etc.
- BOARD FULLY SOCKETED.

OTHER FEATURES THAT WILL BE INCLUDED TIME AND SPACE PERMITTING:

- Support for 68020/030 and 32 bit RAM/ROM.
- KickStart in RAM as per existing 1000.

If you have other features that you think should be included, please write them down and send to the address below. We will not be able to put much more on the board but simple, useful things will be of benefit to all.

The expected price of the PHOENIX BOARD is \$600 with 1 Meg of RAM. The board will also be available bare if possible. A trade-in on the old A1000 is also a possibility. The A1000 chips such as the 68000 processor, Denise and Paula custom chips and CIAs will be reused to reduce costs. All other chips will be supplied.

The PHOENIX BOARD will be a complete drop in replacement for the existing motherboard and will enable you to continue to use your existing external hardware. We will maintain the position of the 68000 chip in relation to the case internal fittings so that internal memory boards should still work but actually trying these will depend on their availability to us. The advantage of retaining to A1000's keyboard, power supply and mouse will be apparent to all who have compared theirs to the 500/2000 setup.

There is a possibility of a local installation point in each state, so you will be without your computer for the least possible time if you do not feel confident to install the board yourself. We welcome inquiries from suitably skilled individuals or organisations who do this work.

The PHOENIX BOARD will suit all model A1000's, not just the NTSC versions, and is a local, AUSTRALIAN MADE product.

There is one hitch. Andrew Wilson currently has over twenty products in development, including an Audio/Video digitiser, Colour Splitter, FAX Board for the Amiga, SCSI board, 68020/68881 board, A500 internal 2 Meg board, and a board allowing Workbench in ROM. As well as all this, he is struggling to keep up with demand for his 8 megabyte memory boards, hard drives and other products. At present, Andrew is doing all the work himself, and as a result, development has a low priority. Of course, the PHOENIX BOARD is on the top of the list, but if present trends continue, it could never eventuate. That's why we need YOUR help.

We have formed a company, SPANDUCT PTY. LTD., soon to be renamed PHOENIX MICRO TECHNOLOGIES PTY. LTD., that will employ people to assemble, test and market Andrew's present products, leaving Andrew free to work on development. The first project of the company will be the PHOENIX BOARD. Development time for the PHOENIX BOARD is expected to be three to four weeks from commencement. If you would seriously be interested in investing in the PHOENIX BOARD, and increasing the potential of your Amiga 1000 to beyond that of even the Amiga 2000, please consider helping us.

Place a \$100 deposit on the board with us, and in less than three months, you could have a new computer sitting on your desk. Of course, if enough people do not place a deposit with us the board will never eventuate and the A1000 will fade into insignificance. People placing deposits with the company will receive a twenty percent discount on the price of their PHOENIX BOARD. Orders will be filled in the order in which they are received, ie first come first served. A closing date for deposits has been set at the 30th of November 1989 at which time we will be able to assess demand and make a decision on the viability of continuing with the project.

All deposits will be refunded if, due to a lack of response, we do not go ahead with the PHOENIX BOARD project. Once work has started no refunds will be possible. The sooner you place your deposit, the sooner it will all happen. Please consider helping us. You will really be helping yourself.

Contact Andrew Wilson on: (08) 293-3960 (6 - 7 pm except Friday)

or write to: 2 Meredyth Avenue
Millswood
South Australia 5034

Send deposits and orders to: Spanduct Pty Ltd
P.O. Box 41
Goodwood
South Australia 5034

TO ENSURE THAT THE AMIGA 1000 SURVIVES INTO THE NEXT DECADE, PLEASE CONSIDER THE ABOVE PROPOSITION, AND PLEASE DISTRIBUTE THIS DOCUMENT AS WIDELY AS POSSIBLE

ROSS MOLDEN
JONATHAN POTTER
ANDREW WILSON

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Richard Stocks

My Latest Toys

by Mark Kelly, Swan Hill

I've been having a wonderful time lately. Since I discovered the joys of the ALIAS command in the 1.3 shell I've been using it for all sorts of interesting things. This is how my the ALIASing part of my S:shell-startup looks. Remember that the [] in the alias shows where the parameter will be put.

; These 3 aliases are just typing shortcuts
alias c copy []
alias e dme
alias d dir

; The next 2 make command options into command themselves!

; e.g. "files df1;" lists only the files on df1:
alias dirs list [] dirs nohead
alias files list [] files nohead

; I'd rather type "0" than "cd df0;" all day
alias 0 cd df0:
alias 1 cd df1:
alias v cd vd0:

; why clutter your C directory
; with a dedicated PRINT command?
alias print type >prt: []

; a cheap and easy way to check
; bootable disks for bootblock anomalies
; Just type "virus df0;" (or any drive)
; and you get a health report
alias virus install [] check

; and finally easy ways to invoke commands
; whose syntax you ALWAYS forget!
alias snip run system/snippet a4 b4 p"
alias zoo zoo/zoo-extract []
; i.e. to unpack abc.zoo, just type "zoo abc.zoo!"
alias arc arc/arc -x *
alias ss ed s:startup-sequence
alias ff format drive [] noicons quick name empty

Get the idea?

My second early Christmas present to myself was found lurking in the depths of my public domain archive bin. It's called DME and I love it. Poor old Ed has since been given the flick since I found this smart, superspeedy 50,000 byte editor. Watch Ed plod through a global search/replace in a 100K file and you'll be hooked when you see DME fly through the same work.

DME by Matt Dillon is programmable. You can map any key combinations to invoke tailor-made commands. Want a command to strip leading spaces from files? No worries. Write it yourself! Don't like someone else's 'perfectly intuitive' method of pressing ctrl-alt-shift-F2 to mark a block? Never fear! You can remap the command to any key combination you prefer. My keymaps are a mongrel hybridization of Wordperfect, Ed, Textcraft and a hundred other editors I have known

and loved. That's the beauty and power of DME. It has a rich set of programming commands and conditional tests so you can do a variety of clever things with text that Ed could only dream of. In a script file called ".edrc" you define your configuration. DME reads it upon waking up and tailors itself to your way of working. For fellow DME fans, here are a few of my .edrc lines...

```
# put at the start to provide a full-size window
resize 80 25
# goto line n or move up/down n lines
map c-g (escimm (goto ))
# reformat paragraph with wordwrap
map A-v reformat
# delete to start of line
map c-u (while !l (back ))
# global search-replace
map A-r (escimm (findr ) top first repeat -1 (nextr ))
# load new file
map A-l (escimm (newfile ))
# insert file
map A-i (escimm (insfile ))
# provide default filename for a save
map 'A-s' (escimm (saveas $filename))
# double quit to avoid confirming
map 'A-q' 'quit quit'
# save and quit
map 'c-x' 'ifelse m 'saveold quit' 'quit'
map f4 block
map s-f4 unblock
# strip leading spaces
map A-delete (repeat -1 (down first while c=32 del))
# strip control codes
map a-f3 (repeat -1 (down first if c<32 del ( ( ))))
# cut/copy/paste
map A-p (infile t:dme_clip )
map A-x (bsave t:dme_clip bdelete )
map A-c (bsave t:dme_clip unblock )
```

Coding your own commands is not only convenient, it's good hacking fun! In some ways it makes Wordperfect look rather dumb. I'm bracing myself to explore Uedit next. It looks jolly interesting too. It's a shame about good ol' Ed going the way of the dinosaurs. It served me well. Not to worry: many of Ed's keystrokes have been perpetuated in my DME configuration. Whenever I do a control-B or control-Y using DME, I'll think of grandpa Ed in well-deserved retirement in the rolling green pastures of my archives.

'Amiga Disk Drives Inside and Out', Abacus Book 9
A word to the Unwary

Just before you all race out to buy this book, and then spend a week typing in SPEEDER.S, the Abacus floppy disk acceleration system, a word of warning: it probably won't work. That is, it will execute exactly as it should (once you correct all the spelling mistakes), but it won't accelerate your floppies very much. In fact, not at all. Here's why.

```
lea $fc0000,a0
cmp.l #$2033332E,$1c(a0)
```

```
bne DError4
cmp.l #$31393220,$20(a0)
bne DError4
```

```
DError4: clr.l d0
rts
```

for those of you not up on assembler, here's a rough translation: Look at the 28th-31st characters in the ROM Exec Libraries. Are they equal to '<space>33.'? If not, goto DError4. Look at the 32nd-35th characters. Are they equal to '192<space>'? If not, goto DError4.

(other stuff)

DError4: set a return code to 0 and exit.

The first time I ran this, I thought 'Gee, that was quick.' That's because it didn't DO anything! The book explains the lengthy process that AmigaDOS goes through in reading disk blocks, and describes a really neat system for speeding it up, but unfortunately, the code (all 30 K of it) contains numerous jumps to ROM addresses (something which CATS are always warning us NOT to do - what happens when you upgrade the ROMS?). To their credit, the authors do test to see if a particular version of the ROM is there, but some sort of warning (and a few comments in the code) might have been nice.

- saint nikolai

GRAPHICS-PALETTE

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Playing with sound: PSound, SAM, InstallBeep etc.

There might be a minority out there who, not having their audio outputs connected to anything, are ignoring the sonic possibilities of the Amiga. Well, this one's for you!

Basics:

There are four audio channels on the Amiga, so you can play at least four different sounds at once (I say 'at least', because it is possible to squeeze two or more sounds into one channel), all of them handled by Agnes, which means you don't tie up the processor actually playing the sounds... you just have to start them off and stop them again later.

On many early PC's, you generated sounds by writing a '1' to a certain spot in memory... then writing a '0'... then another '1'... etc, but a lot more quickly than that. This location in memory was somehow mapped to a chip which was connected to a speaker, and these successive Ones and Zeros produced a beep (if your PC was quick) or a buzz (if it wasn't). In fact, on the Dick Smith System-80 PC, you make sounds by toggling the cassette deck relay (which tends to root it). We've come a long way since then.

On the Amiga, all sounds are handled in the form of eight-bit audio samples: that is, if you look at the level of the audio signal some 28,000 times per second, and record the level as a number between 0 and 255 (or rather, between -128 and 127), you will have, well, a big bunch of numbers. And, if you store this bunch of numbers in chip memory (remember, Agnes has to be able to see it), and then if you tell Agnes to 'play' them, then you will hear the sound (this has been grossly simplified, of course).

Files:

Just as there is a standard format for storing pictures on the Amiga (the IFF ILBM, or InterLeaved Bit Map), there is a standard for sound storage: IFF 8SVX (make up your own acronym). If you poke around in the subdirectories of some games (Empire, Flipper, etc) you might see some files called (something).SND or (something.else).8SVX. These are most likely Audio samples.

Input:

There are a number of devices available that can, with the appropriate software, make audio samples out of an audio signal (just like a sonic DigiView). Out of all these devices (Perfect Sound, Datel's Amiga Pro Sampler, MicroDeal's AMAS, FutureSound, etc), the one I'm familiar with is Lester McClure's A-Sampler (\$120 - a snip!), which is a little box about, er, 'that' big (indicating a box about 6 x 4 x 2 inches), which plugs into the parallel port. The software I use is called PSound, which is public-domain (available from our bulletin board) and allows you to read audio from either the left or the right channel, save them as 8SVX files, alter the speed at which the samples are played back, flip them (play them backwards - perfect for hiding satanic messages in heavy-metal songs), add them to other samples, (almost like a sound-sample word processor!), break up stereo samples/create stereo samples from two

sounds, and most importantly, PLAY them (so you can hear what they sound like). Note: the quality of the sound is directly related to the sampling frequency. That is, if you have a bagpipe sound playing C Sharp (277 hertz) and you only sample it ten times, then the ten numbers you end up with won't be a very good representation of the original sound. You may have seen diagrams of audio signals... all those wavy lines... the idea is to take enough samples often enough to be able to recreate those diagrams. Since the Amiga takes samples through Agnes and Audia DMA (don't ask), the theoretical upper limit is 28867 hertz. You can sample higher-frequency sounds than that, but they start to suffer 'Audio Aliasing' (you'd know it if you heard it). In fact, if you've ever played around with the Speak functions, and tried Speak-ing something at a low sample rate, you'll know what Audio Aliasing is like.

Output:

There are a number of possibilities here. There are Audio editors (like PSound) which will let you play around with sound samples... if you save these samples in the 'Instruments' directory in the Deluxe Music Construction Set, you can play them as instruments (the Toccata Fugue played with Wood-duck quacks has to be heard to be believed). There are also a number of public-domain CLI-level sound players: SAM (by Nic Wilson), which lets you play a sound repeatedly (or until you press the left mouse button) - this one relies on the processor to stop the sound when it's finished, so if your machine is heavily utilised at the time, you might get one and a half repetitions of the sound... PLAY, which will play an audio sample once, and a very interesting one, InstallBeep: this one starts a process that watches for any calls of the DisplayBeep() function (that orange flash on the screen that you get when you select the WorkBench 'Version' menu option, for example). When someone does a DisplayBeep(), it plays the sample (so what's the point of that? Well, a few terminal programs use DisplayBeep() to do the 'Control-G, ring the console bell' function... and with the following C program, you can call this from the CLI...)

/* Call DisplayBeep() from the CLI

```
#include <intuition/intuition.h> #include <exec/types.h> /* this may not be
necessary. Who knows? */
struct IntuitionBase *IntuitionBase;
struct GfxBase *GfxBase;
main()
{
    IntuitionBase = (struct IntuitionBase *)OpenLibrary("intuition.library", 0L);
    if( IntuitionBase == NULL )
        exit(FALSE);

    GfxBase = (struct GfxBase *)OpenLibrary("graphics.library", 0L);
    if (GfxBase == NULL)
        exit(FALSE);

    DisplayBeep(NULL); /* the important bit */

    CloseLibrary(GfxBase);
    CloseLibrary(IntuitionBase);
}
```

The big advantage of DisplayBeep over the other two is that it will play the sound over the first available channel. If channel one is being used, it will play it over channel two. If all the channels are in use, it will do the regular 'Flash the screen orange' function instead. This means you can have an interesting 'echo' effect by playing the sample four times.

A Few Closing Comments

1. 8SVX sound files can get very big. A five-second, stereo file with 43616 samples takes up about 87 Kilobytes.

2. Most sound-sample players can't distinguish between a mono and a stereo sample, and will seem to play the stereo sample twice. (That's where PSound's 'Break Up Stereo' function comes in handy).

- saint nikolai

Co-ordinator's Comment

MEETING NEWS

With a view of offering more services to AUG members and making the monthly meetings more interesting, the committee has sent letters to all major Amiga dealers in Melbourne. The letters explain who we are and invite the dealers to demonstrate and sell their wares at one of our monthly meetings offering them exclusive rights for that meeting.

The October meeting was the first to have one of these dealers in attendance. Master Systems of Bayswater (October meeting) and High Technology from Brighton (November meeting) are the two dealers who have so far answered and attended.

Due to a poor response from most dealers to these invitations, Master Systems have been invited to attend the December meeting and have accepted the offer. Come along and check out what they have for sale and for how much.

Also in attendance at the October meeting was Andrew Palmer from Tate Palmer Technology (a Commodore Com-care centre). Andrew addressed the meeting explaining what can go wrong with your Amiga and how to reduce the repair bill. Two interesting points raised were a known problem with dry joints EHT connections of 1081 monitors and the green screen occasionally appearing before the self test gray shades on 2000's when warm booting not being a problem.

Con (alias the Ed) Kolivas was asked to elaborate on the requirements for writing articles (of which here is short of) for the Workbench. Briefly the article should be in text only format, that means it is readable (no spurious characters) if you "TYPE article name" from CLI. Many wordprocessors have an option to or save in this format. As to content, say whatever you want to and the editor (whose decision is final) will decide whether the article should be edited down for legal/ethical reasons. There is an area on both of our bulletin boards where articles can be uploaded to. If you don't have access to a modem there is nothing wrong in handing a disk to Con (or any other Committee member) which will return to you in the fullness of time. Authors of printed articles (99% are printed) receive vouchers for free Public Domain disks from the clubs library.

CLUB NEWS

Hopefully by this time the AUG will have their own phone number, listed under "Amiga Users Group". This contact point will make it easier for new members to inquire about the club and its services. It will also allow for the advertising of the

Version 0.1, includes source in Modula-II
MegaWB A program that makes it possible to make your WorkBench screen as large as you like. Version 1.2, includes source in Modula-II

MuchMore Another program like "more", "less", "pg", etc. This one uses its own screen to show the text using a slow scroll. Includes built-in help, commands to search for text, and commands to print the text. Works with PAL or NTSC, in normal or overscan modes. Supports 4 color text in bold, italic, underlined, or inverse fonts. Version 2.5, this is an update to version 1.8 from disk 234. Includes source in Modula-II and assembly code

MultiSelect A small program that makes it possible to select several icons on the workbench without having to press the Shift key. This is version 1.0, includes source in Modula-II

PowerPacker A shareware command and data cruncher, with a full intuition user interface. Executable files which are crunched are automatically de-crunched upon execution, thus saving precious disk space on systems without hard disks. Version 2.3b, binary only

WBShadow A small program that creates a shadow for everything that's displayed on your WorkBench (Windows, Icons, Gadgets, Menus, Texts, etc). This is version 1.0, includes source in Modula-II

With A CLI command that allows you to start any other CLI command several times and give it all the files that match a file pattern as an argument, one at a time. This is version 1.0, includes source in Modula-II

Fish Disk #254

Etale Another "more" or "less" type file reader, which differs from the others in that it supports superscripts and subscripts at very low memory cost, and supports a complete Greek alphabet. Includes source

MachII A "mouse accelerator" program that also includes hotkeys, the features of sun mouse, clicktofront, popcli, title bar clock with a bbs online charge accumulator, and more. This is version 2.6, an update to version 2.4c on disk 163. Binary only

PatternLib A sharable library which implements Amiga-DOS pattern matching, and a program that compiles "fd" files into library headers and interface stubs. Includes source in Draco

SlotCars A fast action one or two player game of "dueling" slotcars. Shoot rockets at your opponent and avoid his. Binary only

Uedit Version 2.5b of this nice shareware editor. Has learn mode, a command language, menu customization, hyper text, and other user configurability and customizability features. Binary only, shareware, replaces version 2.4g on disk 189

Fish Disk #255

CyclicSpace A Griffeathian cyclic space generator program. Implements a cellular automaton as de-

scribed in the August 89 issue of Scientific American. Version 1.42, includes source in assembly code

MakeIcon This program will make an icon (.info file) using image data from either another icon, or an IFF picture file. The image data is drawn on the screen so you can see exactly what your icon will look like. You can also go the other way, and make IFF files from icons, which can then be loaded into a standard IFF graphics editor. Version 1.1, binary only, source available from author

MED A music editor much like SoundTracker. A song consists of up to 50 blocks of music, which can be played in any order. Editing features include cut/paste/copy tracks or blocks, changing the vibrato, tempo, crescendo, and note volume. Other features include switching of the low-pass-filter on or off on a per song basis, and a cute little animated pointer of a guy doing "jumping jacks" in time to the music! This is version 1.12, binary only. Source for a player program included

RolandD110A A program to transfer sound samples between the Amiga and a Roland D-110. Version 1.0, binary only

RolandS220A A program to transfer sound samples between the Amiga and a Roland S-220. This is version 2.0, an update to MIDIsoft version 1.0 on disk 199. Includes several enhancements. Binary only

SunMaze The 3d maze demo from disk 171, now expanded with shadows in the corridors to give more sense of direction. Includes source

Fish Disk #256

BlitDemons This program implements the Demons cellular automaton as described in the August, 1989, issue of Scientific American. Using extremely simple rules it exhibits rather complex behaviour. Uses the blitter to perform over 350,000 cell-generations per second. Version 1.0, includes source

NameGame A game based on a popular type of word skill puzzle contest generally sponsored by newspapers. Binary only

Stevie A public domain clone of the UNIX 'vi' editor. Supports window-sizing, arrow keys, and the help key. This is version 3.7a, an update to version 3.6 on disk 217. Changes include the addition of ARP wildcard expansion for file names, support for the "!cmd" feature of vi, other small enhancements, and some bug fixes. Includes source

Fish Disk #257

ColorReq A color palette library callable from any program. Used to adjust the colors of any screen. Automatically adjusts to screen size, number of colors. Has many features including SPREAD, COPY, UNDO, RGB, HSV, as well as customizable gadgets. Binary only

FileIO An update to the file requester library that appeared on disk #203. This one has new features, include files, docs, and examples in C, assembly, and Basic. Binary only

recently in use at SLAC (Stanford Linear Accelerator Center). Although the VT100 part was originally based on Dave Wecker et al.'s VT100, many enhancements were made. The program requires ARP, and it has an ARexx port. XMODEM 1K/CRC and Kermit protocol support also included. Other features include support for additional serial ports, external file transfer protocols, and "chat" mode. The Tektronix emulation allows saving IFF files, PostScript files, and printing bitmaps to the printer. This is version 4.226, an update to version 4.065 on disk 245 and version 4.036 on disk 226. It comes in two versions, one with Tektronix emulation, and one without. Other changes include full XPR version 2.0 support, and a scrollback/review/history buffer. Binary only

Fish Disk #258

Backup Backup and Restore allow you to backup any directory tree with optional compression, and later extract all or part of the tree. The protection, date, and file comment are saved with each file. This is version 2.04, an update to version 2.01 on disk 168. Binary only

DMouse A versatile screen & mouse blanker, auto window activator, mouse accelerator, popcli, pop window to front, push window to back, etc, widget. Includes DLineArt, a screen blunker replacement program for use with DMouse. This is DMouse version 1.20, an update to the version on disk 238 (also called version 1.20). Includes source

STReplay A shared library which allows loading and playing of SoundTracker modules, even from high level languages like Basic or C, without any special effort. Includes source

Suplib The support library needed to rebuild various programs of Matt's from the source, including Dme, DMouse, etc. Update to version on disk 169. Includes source

Fish Disk #259

EFJ A fast action machine-code game (Escape From Jovi) featuring hi-res scrolling, large playfield, disk based high score list, stereo sound, multiple levels, a cheat mode, realistic inertia and gravitational effects, an animated sprite, and more. Use a joystick in port 2 to control the ship. This is version III, an update to the version on disk 148. Includes source in assembly code

Fish Disk #260

Accordion Demo version of a solitaire type card game. The object of the game is to condense all the cards into one pile. The cards are dealt face up from left to right, one at a time. Piles are built by moving a card or pile from the left onto a card or pile to the right. Version 1.0.1, binary only

Calculation Demo version of a solitaire type card game. The object of the game is to stack the cards into four ordered stacks, one that counts by one, another that counts by two, another that counts by three and another that counts by four. Version 1.0.2, binary only

CCLib An implementation of the standard C library, that is done as an Amiga shared library, containing over 140 functions. Version 1.3, binary only

SeaHaven Demo version of a solitaire type card game. The object of the game is to separate the deck into its four suits, each in an ordered stack from ace to king. Version 1.1, binary only

Fish Disk #261

CopDis A copper list disassembler that can be run from the CLI or linked with and run directly from an application program. This is version 0.0a and includes source

ShowBiz A fun animation with mice, a dancing alligator, a sheep on a trampoline, and more. Includes source in "director format"

XprZmodem An Amiga shared library which provides ZModem file transfer capability to any XPR-compatible communications program. This is version 2.0, an update to version 1.0 on disk 236. It adds support for XPR spec version 2.0 capabilities, including automatic download activation, better user interface for setting options, improved transmission speed, and other minor enhancements. Includes source

Fish Disk #262

Indent This is version 1.1 of GNU Indent, a C source code formatter/indenter. Especially useful for cleaning up inconsistently indented code. Includes source

Jumble A quick "brute force" program for solving for anagrams. Not very elegant, but gets the job done. Includes source

Lotto Lotto is designed to replace your user group's old shoebox full of membership numbers and names and add some pizzaz to the process of drawing for doorprizes at club meetings. Includes source

QMouse A very small mouse accelerator (4K) written in assembly language, but with most of the features of its larger cousins. Not related to QMouse on disk 49. This is version 1.6, shareware, binary only

QView A very small file view program (only 3K) written in assembly language, but with most of the features of its larger cousins. Version 1.1, shareware, binary only

World DataBase A project using geographical data, declassified and made available by the CIA under the Freedom of Information Act, to draw a Mercator projection of any area of the Earth that you would like to inspect, in various degrees of magnification. Also includes a program that displays a "satellite view" of any region. Version 2.0, includes source

Fish Disk #263

Sentinel A large ray-traced animation created with Turbo Silver SV, Deluxe Photolab, Deluxe Paint III, and the Director. It consists of approximately 60 to 70 frames of animation, rendered during a period of about three and a half weeks. This is Bradley Schenck's entry to

Mike's entry to the 1989 BADGE Killer Demo Contest. This "Amiga Boing" ball is just loaded with energy! Binary only

Fish Disk #272

AmigaPuntA program designed to predict the performance of horses in a race. The premise is that the factors affecting a horse's performance, and ultimately the result of the race, can be given a value. Binary only

Balloon This animation with sound effects is Dave's entry to the 1989 BADGE Killer Demo Contest. Binary only

Spigot This ray-traced animation, using overscan HAM and sound effects, is Eric's entry to the 1989 BADGE Killer Demo Contest, where it won 6th place. Binary only

Fish Disk #273

BattleForceA nicely done shareware game, submitted by the author, that simulates combat between two or more giant, robot-like machines. This is version 3.61, an update to version 3.01 on disk 205. Binary only

PennyWiseAn easy to use, flexible cashbook program using an Amiga Intuition interface. It can be used to keep track of the financial transactions of a cheque, bank, business, or similar account. Shareware, binary only

Fish Disk #274

HP11 Emulates an HP11C calculator including the program mode. Features an ON/OFF button that turns the calculator into an icon that will sit and wait until you need it again. This is version 1.1, an update to the version on disk 153, and includes a few bug fixes and minor changes. Binary only

KeyBiz This little hack will make you think you have mice scurrying around in the back of your computer. Includes source

LookFor A general "find that file" utility which is handy for hard drives, multiple drives, and multilayered paths. Includes source

SlideMasterA slideshow program that can show any IFF ILBM picture, including HAM, extra half bright, hires, interlace, and overscan, using several different wipes. Also has an ARexx port and is fairly small. Version 0.1, binary only

Snap A tool for clipping text or graphics from the screen, using the clipboard device. Snap finds out character coordinates automatically, handles different fonts, keymaps, accented characters, and more. Version 1.3, includes source

Xoper Very comprehensive program to monitor and control system activity. Monitor cpu, memory usage, ports, interrupts, devices. Close windows, screens, show loaded fonts or last Guru code number. Clean up memory, flush unused libraries, devices, fonts, etc. and a whole bunch more! Spawns its own process. A very handy background task to have loaded. This is version 2.0, an update to version 1.3 on disk 228, and has a completely rewritten

interface and an iconify feature. Assembly source included

Fish Disk #275

Vt100 Version 2.9 of the original Amiga vt100 emulator with kermit and xmodem file transfer. This version adds an AReXX port, new script and AReXX commands, some bug fixes, the ability to use custom external protocol modules (not XPR), and support for zmodem. Update to version 2.8 on disk 138. Includes source

Fish Disk #276

Blit This animation is Richard's entry to the 1989 BADGE Killer Demo Contest. An interesting feature of this animation is that it uses the Copper to show the lower right corner of the screen in Hi-Res, while leaving the rest of the screen in Lo- Res. Binary only

ClickDOSA "directory utility" type program which is reasonably small, uses a single window on the Workbench screen (which can also be iconified), does not rely on other programs for most of its functions, and is very memory efficient. This is version 1.10, binary only

DateRequesterA module that provides Intuition based support for soliciting a date value from the user. It supports both point-and-click selection of date values and direct entry of the individual components. It also includes a standalone ARexx driven date requester program which can be called from ARexx macro files. Includes source

Fish Disk #277

ARTM ARTM (Amiga Real Time Monitor) displays and controls system activity such as tasks, windows, libraries, devices, resources, ports, residents, interrupts, and vectors. Version 0.9, binary only

Icon A high-level programming language with extensive facilities for processing strings and lists. Icon has several novel features, including expressions that may produce sequences of results, goal-directed evaluation that automatically searches for a successful result, and string scanning that allows operations on strings to be formulated at a high conceptual level. Icon resembles SNOBOL4 in its emphasis on high-level string processing and a design philosophy that allows ease of programming and short, concise programs. This is version 7.5 of the public domain implementation of Icon from the University of Arizona. It is an update to version 6.0 from disk 81. Binary only

LabelPrintA program that allows you to easily print labels for your disks. This is version 3.0, an update to version 2.5 from disk 238. Shareware, binary only (source available from author)

LPE LaTeX Picture Editor is a graphical editor for producing "pictures" for the LaTeX system, which may be imported by LaTeX. You can draw boxes, dashed boxes, lines, vectors, circles, boxes with centered text, and plain text. This is version 1.1, an update to version 1.0 on disk 243, and includes some new drawing tools, enhanced user interface fea-

tures, optimized code, and some bug fixes. Binary only

WBAssignA small WorkBench program that creates Amiga-DOS assignments without having to open a CLI. Assignments may be made by specifying a complete path (as supported by the CLI command), or by specifying a path relative to the current directory. This allows a program and its assigns to be moved easily. In addition, WBAssign can create assigns specified in the icon files of other programs located anywhere in the system. This is version 1.20, binary only

WBRes A program that allows WorkBench users to have resident programs, as in the resident capability of WShell, the ARP shell, and the WB1.3 Shell. Version 1.2b, shareware, binary only

Fish Disk #278

AmigaTrekThree stories which are a parody of the Star Trek series, with an Amiga flavor

ASpice A version of the SPICE 2G.6 circuit analysis program which has been modified to run in the Amiga environment. The program arrays are adjusted to require one tenth the memory of the DEC VAX version. Although this does not usually put much of a constraint on circuit analysis, some users who are used to the full mainframe environment may have to be more aware of the memory demands of their analysis. Requires a minimum of 1 MB memory. This version neither supports nor requires the 68020 processor or 68881 coprocessor. This is Amiga version 5.1, an update to version 2.3 on disk 177. Binary only

Frag Two CLI utilities that show disk and file fragmentation on AmigaDOS floppies. Includes source

Fish Disk #279

Ash A ksh-like shell for the Amiga. Some of its features include command substitution, shell functions with parameters, aliases, local variables, local functions, local aliases, powerful control structures and tests, emacs style line editing and history functions, I/O redirection, pipes, large variety of built-in commands, Unix style wildcards, Unix style filename conventions, filename completion, and coexistence with scripts from other shells. Very well documented. Version 1.0, binary only

MouseClockA clock and free memory display utility that generates a small display tied to your mouse, using two hardware sprites as the display area. Version 1.2, includes source

MRBackUpA hard disk backup utility that does a file by file copy to standard AmigaDOS floppy disks. Includes an intuition interface and file compression. This is version 3.3e, an update to version 3.3d on disk 270, to fix a serious bug in that version. Binary only

MRPrintA dtabbing print utility that sends text files to either the printer device or the standard output. Besides expanding tabs, it will also generate page headers, line numbers, and new margins. Version 3.4, includes

source

Fish Disk #280

BerserkerA virus detection program that can detect various forms of the common bootblock and link type viruses. Rather than checking for a specific virus, it looks for conditions that indicate a possible virus infection, thus it can detect new strains of similar viruses. Version 3.0+, includes source in assembly

CM A celestial mechanics simulator with an Intuition interface. You construct a layout of celestial bodies and specify various parameters for the bodies and the simulation. CM then animates the bodies according to the laws of gravitational attraction. Setups may be saved to disk to later re-enact interesting scenarios. Version 1.0, includes source

Graph A program that draws mathematical functions on a plane. Text and axes may be added, and the result saved to disk or printed. Uses a full Intuition interface with multiple windows (one per graph), requesters, etc. Version 1.0, includes source

Fish Disk #281

Diff GNU diff and diff3 utilities, version 1.10. This version provides all the features of BSD's diff plus options to diff non-ASCII files, to ignore changes that just insert or delete blank lines, to specify the amount of context for context diffs, plus more. This version of GNU diff is part of the RCS package found on disk 282. Includes source

DiffDir Compares the contents of two directories, generating a list of differences to the standard output. Detects files or directories present in one hierarchy but not the other, file attributes that are different (dates, flags, comments, etc), and differences in file size. Version 1.1, an update to version 1.0 on disk 188. Includes source

FarPrint Debugging functions for programs which don't have any links to their environment. FarPrint consists of two major parts; a harbour process open to receive and distribute messages and requests, and a set of C functions to be linked into any program wishing to communicate with the FarPrint main process. Version 1.3, includes source

LoadImage An IFF ILBM reader that accepts overscanned pictures, allows you to scroll around in the bitmap if the picture is larger than the current display, works on both PAL and NTSC machines, supports color cycling using interrupt code, and supports printing of image portions. Version 1.9, includes source

MRARPFile Extended ARP file support package that adds an orthogonal set of routines which support generalized I/O with resource tracking while using the ARP library. Includes source

MRMan A package which contains an Amiga document reading system similar to the "man" command on UNIX systems. It offers a high degree of flexibility in the naming and placement of document files on your system. This is version 1.0 and includes source

document files on your system. This is version 1.0 and includes source

Fish Disk #282

PrintHandler A custom PRT: driver which offers easy single sheet support as well as limited data spooling. Version 1.1, includes source

RCS The Revision Control System (RCS) manages multiple revisions of text files. RCS automates the storing, retrieval, logging, identification, and merging of revisions. RCS is useful for text that is revised frequently, for example programs, documentation, graphics, papers, form letters, etc. This is RCS version 1.2, and includes source (the

source to the GNU diff program used with this distribution of RCS can be found on disk 281)

Okay... here's a fun little thing that I often have running in the background. First, you'll need a command that I call RAND:

/* RAND.C: wait for a random period. Thanks, Leo Schwab. */

```
#include <ctype.h>
#include <exec/types.h>
#include <intuition/intuition.h>
extern long *OpenLibrary();
void *IntuitionBase, *GfxBase;
```

main()

```
{  
    unsigned short z;  
    if (!(*IntuitionBase = OpenLibrary ("intuition.library",  
    OL)))  
        exit (FALSE);
```

```
/* we gotta open this one because Delay(), used below, */  
/* is an intuition function. */
```

```
if (!(*GfxBase = OpenLibrary ("graphics.library", OL)))  
    exit (FALSE);
```

```
/* we gotta open this one because VBeamPos() is a graphics  
function. */
```

```
rnd ((short) -VBeamPos()); /* Seed generator for rnd
```

```
*/  
CloseLibrary (GfxBase);
```

```
z = (rnd(300) * 10); /* somewhere between 0 and  
3000 ticks, */
```

```
Delay((long)z); /* or (0 - 60 seconds) */  
CloseLibrary (IntuitionBase);
```

```
}
```

```
/* the next bit is the rnd function, in assembler */  
*
```

* Yet Another random number generator. By Leo Schwab.
* Based on an idea posted on the USENET (Thanks, Sam Dicker!)
* For the Manx assembler.

*

* Calling convention:

* short rnd (range);

* short range;

*

* 8606.30

*/

public _rnd

```
_rnd  learnrnd,a0; Get address of seed  
      move.w4(sp),d1; Get range argument  
      tst.w1  
      ble.setseed; Go reset seed
```

```
move.l(a0),d0; Get seed  
ADD.LD0,D0
```

BHI.Sover

EOR.L#\$1D872B41,D0

over

```
move.l d0,(a0); Save new seed  
andi.l#$ffff,d0; Coerce into word  
divu1,d0; Divide by range  
swapd0; and get remainder (modulus)  
rts
```

```
setseed neg.wd1; Probably don't need this  
move.l d1,(a0)  
rts
```

dseg

```
rndseed dc.l0  
cseg
```

This command, as you may have gathered, just waits for a random period, then returns. So what's the point of all that? Well, consider the following batch file 'Annoy':

```
copy df0:c/sam ram; ; SAM is an IFF Sound file player
copy df0:quote.b ram; ; quote.b is a sound file
copy df0:s/annoytask ram; ; this is another batch file
copy df0:c/rand ram; ; this is the 'rand' command
copy df0:c/lab ram;
copy df0:c/skip ram; ; these are all AmigaDOS commands
copy df0:c/execute ram; ; used by the batch file 'Annoytask'
copy df0:c/wait ram;
df0:c/runback ram:execute ram:annoytask ; start the batch task
```

... and this is the batch file 'Annoytask'...

lab start

ram:sam 64 t230 ram:quote.b ; play the sound sample

ram:wait 3

ram:rand ; wait for a random period

ram:rand

ram:skip start back ; play it again, sam!

So, if you put 'Annoy' and 'Annoytask' in your S: directory, and you have 'lab', 'skip', 'execute', and 'wait' in your C: directory (most people do) and if you can get hold of 'Sam', 'Runback', 'Rand' and a sound sample, and THEN you type

'execute df0:s/annoy' at the CLI, then the sound sample will be played, repeatedly, at random intervals. So what? Well, it surprises people when an Amiga that they are looking at in a department store suddenly pipes up and says (in the voice of Bugs Bunny), 'Ahh, yer brother blows bubble gum!'

- Saint Nikolai

ArticleBlit
by John Casey

'The answer to Mark Kelly WB 41 p14 para2 is yes you can 'See Amiga Tricks & Tips p.275 abacus. You can do most 'things from AmigaBASIC -- if rather slowly.

'The libraries make programming the Amiga very easy - 'regardless of your choice of language - IF YOU KNOW 'HOW TO USE THEM !!

'Wouldn't it be nice if the C experts translated their 'program examples into a language we can all READ and 'AFFORDAmigaBASIC

'Although I use an Assembler I often test ideas out in 'AmigaBASIC first - saves a lot of time - and then 'translate them into Assembler. (See WB23 APR 88 p.3) 'An understanding of the hardware can illuminate the 'routines provided in the libraries. Below is an example 'of using the Blitter at machine code level - written in 'AmigaBASIC of course !!

'This program segment assumes you do not have another 'task using the Blitter (in practice you would need to 'use OwnBlitter and DisownBlitter). Try resizing the 'Intuition window while it runs - what a mess.

'If the flicking is a problem in an Assembly program 'it can be resolved by using a separate work area and 'blittering the results to the screen bitplanes. Masking 'has other uses such as those used in Dpaints stencils

WORKING OUT THE MINTERMS

'The method I use is as follows. The example I shall use 'is the PUT IMAGE ON SCREEN segment. We want the following
'IF mask = 1 THEN screen = image ELSE screen = screen
'First fill in the desired output for each of the eight 'possible inputs and then add their weights to get the 'MinTerm value:

' inputs output
' weight A B C D
=====

| | | | | | |
|-----|-----|---|---|---|-------------------------|
| ' 1 | 0 | 0 | 0 | 0 | A is image source |
| ' + | 2 | 0 | 0 | 1 | B is mask source |
| ' | 4 | 0 | 1 | 0 | C is screen source |
| ' | 8 | 0 | 1 | 1 | D is screen destination |
| ' | 16 | 1 | 0 | 0 | |
| ' + | 32 | 1 | 0 | 1 | |
| ' + | 64 | 1 | 1 | 0 | |
| ' + | 128 | 1 | 1 | 1 | |

' 226 = desired MinTerms

'w = width of blocks to copy in WORDS as the blitter moves 'data one word at a time. Thus the screen can be viewed as 'columns of words which start top left corner pointed to by 'bPlane(n) and are read left to right top to bottom.

'h = height of block. This is the number 'of screen lines per block

'The ModSize is the number of BYTES to get to get to 'the next line as the 68000 addresses memory in bytes.
'ModSize = width_of_bitPlane - width_of_block * 2
'In this example all blocks use the same bit planes.

SCREEN 1,320,200,2,1
WINDOW 2,"BlitterDemo",,,1

Chip = 14675968 & :'\$DFF000

'Find the memory used by this window's Screen
RastPort& = WINDOW(8)
BitMap& = PEEKL(RastPort& + 4)
ScrnWidth% = PEEKW(BitMap&):'in bytes!
ScrnHeight% = PEEKW(BitMap& + 2)
ScrnDepth% = PEEKW(BitMap& + 4)
FOR n = 0 TO ScrnDepth% - 1
bPlane&(n) = PEEKL(BitMap& + n * 4 + 8)
NEXT n

j=12:

'The screen co-ordinates are not the same as the window's
'The image & mask block start one WORD in from the left
'this is 16 screen pixels (or 12 window pixels)

'create an image to move about
CIRCLE (j+6,26),4,3:PAINT (j+4,26),3
CIRCLE (j+38,26),4,3:PAINT (j+38,26),3
LINE (j,8)-(31+j,24),1,bf
LINE (33+j,12)-(40+j,24),2,bf
LINE (40+j,18)-(46+j,24),2,bf
LINE (35+j,14)-(38+j,18),0,bf

'create mask
FOR y = 0 TO 31: FOR x = j TO j+64
v = POINT(x,y)
IF v <> 0 THEN PSET (x,y+32),1
NEXT x,y

'create multi color background
FOR p = 0 TO 192
LINE (p,80)-(p,132),INT(RND(1)*4)
NEXT

' *** These remain constant in this example *****
maskf = -1:maskl = -1
'size of block to blit
w = 4 :'words wide
h = 32:'lines high
ModSize = ScrnWidth% - w * 2
f=0

main:

q=100
FOR p = 0 TO 128 STEP 4

IF f<>1 THEN f=1:GOTO skip:'restore screen?

** RESTORE SCREEN **

Terms = 170:Enables = 768
x4 = xx:y4 = yy : 'destination D
x3 = 10:y3 = 11 : 'source C (screen save)
GOSUB BlitPlanes
skip:

** SAVE SCREEN SEGMENT ***

Terms = 170:Enables = 768 : 'enable C and D
y3 = q:x3 = INT(p/16):'get from (p,q)
yy = y3:xx = x3 : 'needed for restore screen
y4 = 11:x4 = 10 : 'dest D (to screen save)
GOSUB BlitPlanes

** PUT IMAGE ON SCREEN ***

Terms = 226:Enables = 3840 : 'enable ALL channels
x1 = 1:y1 = 11 : 'position of image
x2 = 1:y2 = 43 : 'position of mask
y3 = q:x3 = INT(p/16):'position of destination
x4 = x3:y4 = y3

'now calculate how much to shift image across word 'boundary to place it at the required position.

shift = p - x3 * 16

GOSUB BlitPlanes

FOR d=0 TO 1000:NEXT
NEXT p

Done:
PRINT "HIT ANY KEY TO EXIT"
WHILE INKEY\$="" :WEND

WINDOW CLOSE 2
SCREEN CLOSE 1
END

BlitPlanes:
FOR n = 0 TO ScrnDepth% - 1
Aptr& = bPlane&(n) + y1 * 40 + x1 * 2
Bptr& = bPlane&(0) + y2 * 40 + x2 * 2
Cptr& = bPlane&(n) + y3 * 40 + x3 * 2
Dptr& = bPlane&(n) + y4 * 40 + x4 * 2
GOSUB BlitSegment
NEXT n
RETURN

BlitSegment:
'NOTE in Assembly and C we would wait until

'special bit in the DMACONR indicates that 'the Blitter is ready

POKEL Chip + 80, Aprtr & : 'BltAPt
POKEL Chip + 76, Bptr &
POKEL Chip + 72, Cptr &
POKEL Chip + 84, Dptr &

POKEW Chip + 100, ModSize : 'BltAMod
POKEW Chip + 98, ModSize
POKEW Chip + 96, ModSize
POKEW Chip + 102, ModSize

'BltCon0 = MinTerms, DMAenables, shift
POKEW Chip + 64, shift * 4096 + Enables + Terms
'BltCon1 = shift * 4096
POKEW Chip + 66, shift * 4096

POKEW Chip + 68, maskf : 'BltAFWM
POKEW Chip + 70, maskl : 'BltALWM

'This last instruction will set the Blitter going

POKEW Chip+88, h * 64 + w : 'BltSize

RETURN

Equation solver

by M.Kelly 24-Aug-89 17:53

Recently in one of my "reinventing-the-wheel-for-the-fun-of-it" projects (a database), I faced the prospect of adding computed fields. This involved getting an equation from the program user and then interpreting and executing the equation. After a week I'd finished the routine: equation parser, stack manager, recursive bracket solver etc.

The program worked wonderfully, except it was nearly as long as the database I was to use it in. A bit of a problem. Lateral thinking time. 'How does AmigaBASIC parse equations?' I wondered. 'How does AmigaBASIC work out its order of operations in multi-depth bracketed expressions?' It seemed silly to be telling AmigaBASIC how to do things it could already do by itself. The result dawned on me, after the umpteenth claret (the best programmer's aid since screen editors were invented).

There was a way I could invent ANY equation and solve it easily. Let AmigaBASIC solve it: by merging the equation as part of the program! How? By using CHAIN. CHAIN loads another program from disk and merges it with the resident program. All I had to do was write the equation to a RAM: file in BASIC vocabulary, merge it, run it and suck up the result! The code below does just that. It's not pretty to look at but it's the only way I can get it to work.

You can type in (or let your program construct) ANY equation that is solvable by AmigaBASIC (including all of its functions) and it will calculate it for you, e.g. $SQR((-10734/2)^{*}7)+\sin(4)$ You're not confined to using constants. Since the equation be-

AMIGA HELP-NETWORK

The following is a list of AUG members who have volunteered to share their knowledge/experiences with others. If you also want to help and have your name listed here please contact Lester McClure (233 5664 AH). The names are not listed in any order of priority and the format may change in future listings. Please keep contacts to reasonable hours (6 to 9 pm unless otherwise mentioned) and remember one very important basis of this service - they are volunteers...

| | | |
|----------------|---------------------------------------------------------------|------------|
| Neville Sleep | - AmigaBasic (beginner level) | - 546 0633 |
| Rudy Kohut | - AmigaBasic (intermediate) | - 807 3911 |
| John Elston | - AmigaBasic (advanced) | - 375 4142 |
| Alan Garner | - AmigaBasic, A/C Basic | - 879 2683 |
| Mal Woods | - C(Introductory), Professional Page | - 888 8129 |
| Andrew Gelme | - C (advanced) - AZTEC | - 645 1744 |
| Eric Salter | - C (advanced) - LATTICE, TeX | - 861 9117 |
| Norm Christian | - Amiga Art, Music | - 798 6552 |
| Neil Rutledge | - Music, Audio Sampling, MIDI | - 597 0928 |
| Russ Lorback | - Excellence!, Superbase Professional (Beg-Int) After 9:30 pm | - 756 6640 |
| Darren King | - Amiga Viruses, Modems/communications | - 546 5040 |
| George Wahr | - Side-Car, Bridgeboard | - 376 6180 |
| James Gardiner | - AmigaDOS, Auto-boot hard drives | - 523 6843 |
| Stephen Bell | - Hardware design | - 25 8415 |
| Joe Santamaria | - Graphic arts - DPaint, Sculpt etc. | - 836 9129 |
| John Hampson | - Modula-2 | - 584 3921 |

comes a part of the main program, you can use any variable from the main program in your equation, for example:
`LEN(MID$(f$(i,k),st,f(k)))+r(i)/.01` (Try using a,b & c when you play with the routine below.)

If you alter the program and then run it, AmigaBASIC will ask you if you want to save it. DON'T PANIC! That's the effect of CHAINing the code. Just click on 'NO'.

Maybe you can keep this method of equation solving in mind when you next have to deal with user-created equations in your program.

```
a=3: b=5: c=7 'sample variables to use in equations
LINE INPUT"Gimme an equation: ",x$
OPEN "ram:Kill.Me" FOR OUTPUT AS 1
PRINT #1,"11111 'leave this here!!" 'create a file with
PRINT #1,"equaval=x$": goto continue" 'the equation code
CLOSE 1
'For equations that return strings (e.g. mid$(...)),
'use 'equaval$' above rather than 'equaval'
CHAIN MERGE "ram:Kill.Me",11111,ALL,DELETE 11111
continue: 'do NOT rename/remove this label!
PRINT "The value of the equation "x$" is" equaval
```

' and your program continues...

END

=====

= DO NOT ADD ANYTHING AFTER THIS!!! CHAIN

Editor's Column
(Written 4-Dec-89)

Howdy folks. It's good to be back behind Amy again and doing all those things you feel guilty about doing during your exams (like playing games). But seriously folks, have a good look at the newsletter this month. I made a plea for articles and it seems some people are willing to put in a great deal of effort. Nikolai Kingsley, a regular name to say the least, is featured as the main attraction this month. Our patron saint seems to have good wishes for the club and dare I say it has blessed us all. I give him a special mention this month for his contributions without which I don't know what would happen. Believe me, though, this is not all the articles and contributions he sent in. In fact, if there was no other choice, I would have made this an exclusive Saint Nikolai edition.

I've had a number of people enquire about the Bible being available on the Amiga, which I had mentioned some months back. Well, there are five disks available in all, four of which are priced at US \$39.95 and one at US \$19.95. The only detail I have is that the publisher is: John 1: 1 Graphics

P.O. Box 316

Bellflower, CA 90706

(That would be in the United States of Course)

Someone mentioned there being memory boards for sale at the next meeting; but did not leave me a message as he said.

Anyhow, those of you having holidays coming up have a nice holiday (as I intend to) and those of you working well Merry Christmas and have a virus-free New Year.

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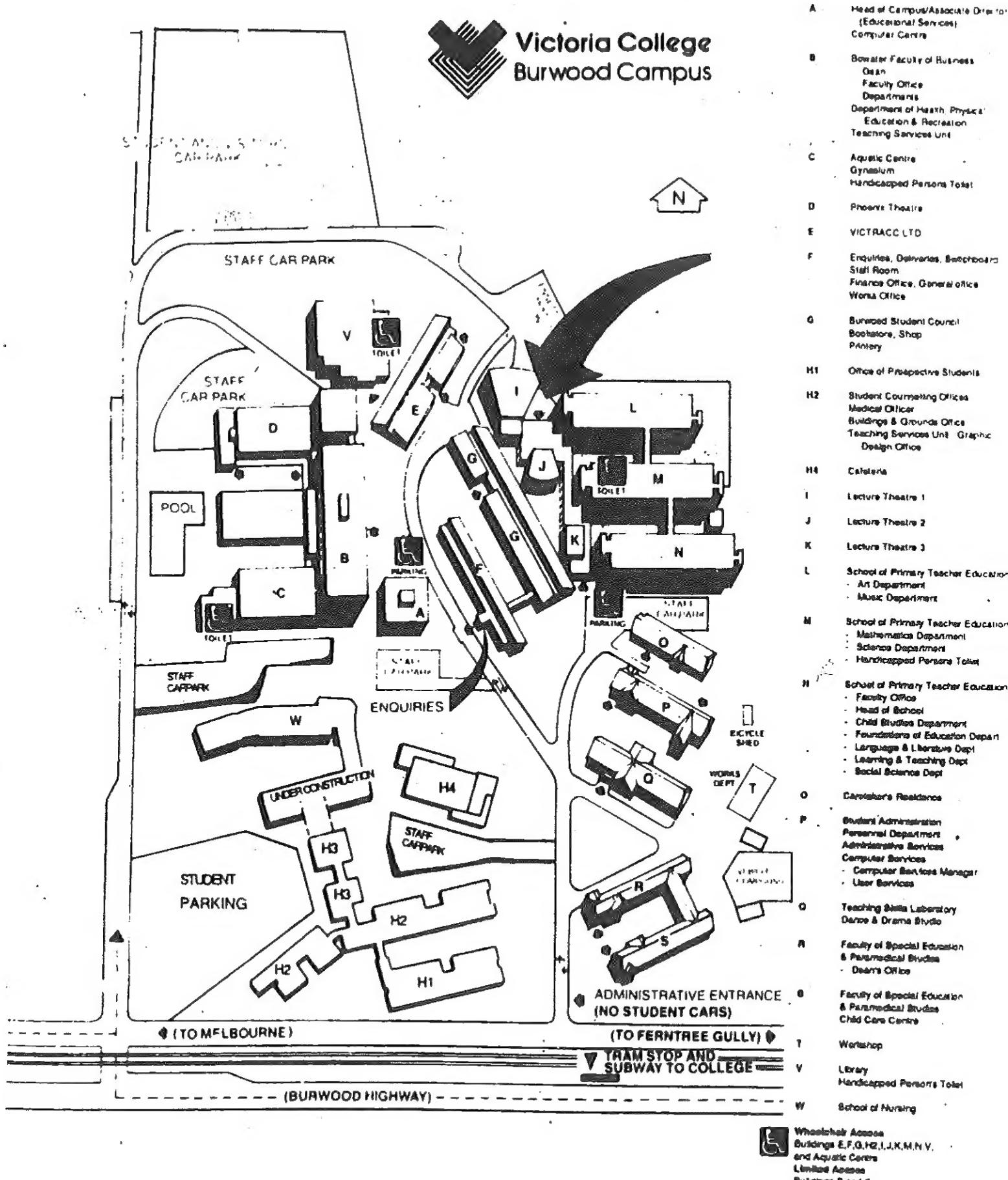
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December 1989 Amiga Workbench
AUG meets on the
third Sunday of each month



Where is Victoria College, Burwood Campus?

Melways Map 61 reference B5.

People often have difficult locating our meeting place the first few times. Victoria College is on the North side of Burwood Highway, Burwood, just East of Elgar road. Coming from the City along Burwood Highway, turn left at the first set of traffic lights after Elgar road. Follow the road around past the football oval, over five traffic bumps to the car parking area near the netball courts. Further up the road, to the right, you'll find Lecture Theatre 2.